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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/736,046   | 12/15/2003  | Chih-Hsin Wang       | CFP-2321 (15722/607) | 4054             |
| 23595  | 7590        | 07/28/2005           | EXAMINER             |                  |
| NIKOLAI & MERSEREAU, P.A.<br>900 SECOND AVENUE SOUTH<br>SUITE 820<br>MINNEAPOLIS, MN 55402 |             |                      | SINGH, ARTI R        |                  |
|  |             |                      | ART UNIT             | PAPER NUMBER     |
|  |             |                      | 1771                 |                  |

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/736,046

Applicant(s)

WANG, CHIH-HSIN

Examiner

Ms. Arti Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: there is no heading entitled Detailed Description of the Drawings. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Rock et al. USPN 5413837. Rock et al disclose a 3-Dimensional knit or woven fabric having first and second fabric layers. A barrier layer which is impermeable to liquid water and permeable to water vapor is adhered to each side of the fabric layers (column 12, lines 7-12). The fabric layers can be made of either nylon or polyester (column 1, lines 44, column 3, lines 3). In preparing the three-dimensional knit or woven fabric of the invention, the thread or yarn that is used is preferably a synthetic material such as a polyester, acrylic or nylon. The yarn or thread may be a monofilament or spun, texturized or fully oriented. The yarn interconnecting the two layers of the inventive three-dimensional knit or woven fabric should have sufficient resilience and stiffness to keep the two fabric layers apart even if pressure is applied to any one of the fabric layers. In construction, the interconnecting yarn is made of either the same or a different material than that of the two fabric layers. Particularly, in order to render the interconnecting yarn resilient, the yarn may be made of a resilient material such as monofilament or multi-filament polyester, nylon, etc. Preferably, the interconnecting yarn has a fineness of between about 300 and 5,000 denier. As discussed

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above, a barrier layer is applied to both the first and second fabric layers in order to render the fabric layers impermeable to liquid water but permeable to water vapor. The barrier layer that is chosen to be applied to the two fabric layers may be hydrophilic and monolithic or hydrophobic and microporous and may be made from any number of materials, including porous polyethylene, polysulfone polysiloxane, polyether-polyester and polyurethane or a block polymer of any of the above. The barrier layer that is deposited on the fabric layers is specifically selected based on the intended use of the three-dimensional fabric. For example, if the three-dimensional knit or woven fabric is to be used in a garment suitable for working in water, the film that is chosen would be resistant to hydrostatic pressure. Suitable films of this nature include polyvinyl chloride, polypropylene and polyethylene. On the other hand, if the garment incorporating the three-dimensional knit or woven fabric of the invention is to be worn when conducting activities on land, a film with good moisture vapor transmission characteristics is chosen. Suitable films include polyurethane, polysiloxane and polysulfane. The barrier layer is applied to the two fabric layers by one of a number of methods well known in the art. These include transfer coating, in which the barrier layer is first placed or laid on a carrier. Thereafter, the film is placed on the fabric layer, and the carrier is then discarded. Additional methods for applying the film include direct lamination of an extruded film as well as direct roller coating of a solution onto the fabric layers from which the solvent is then evaporated. A further method for applying the barrier layer is first applying an adhesive on the fabric layer by spraying or gravure printing and then placing a self-supporting film on top of the adhesive in the manner of lamination. Preferably, and in order to promote air entrapment, the edges of the three-dimensional knit or woven fabric of the invention are sealed before incorporation into a garment. This is achieved by either having the edges along the fabric sheet sealed directly or by preparing the fabric in quilted

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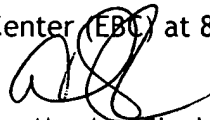
form. The sealing of the fabric promotes ambient air entrapment so that it is insulative, so that moisture from the outside is kept out and so that buoyancy for flotation is retained. Sealing may be achieved by such conventional processes as thermal bonding, ultrasound bonding, chemical bonding, radio frequency welding or laser fusion. Quilting may be achieved by embossing the fabric to create a pillow-like structure. In some embodiments, another fabric layer may be adhered to either of the barrier layers deposited on the fabric layers. The additional fabric layer may be added in order to promote puncture and tear resistance and would be located towards the outside of the article or garment. This additional outer fabric layer is either a highly dense knit or a woven "shell." It may be made of a nylon or polyester material. Other materials may be chosen if they exhibit the appropriate physical and functional characteristics (column 3 lines 1-56). It should be noted that the Examiner is equating the barrier layer to be equivalent to Applicant's decorative layer. Therefore Rock et al teach two separate woven fabric layers made of nylon or polyester, which are interconnected by yarns, and further provided, with a barrier layer which may be applied by thermal or coating means.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-F 9-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ms. Arti Singh  
Primary Examiner  
Art Unit 1771

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